REMARKS

Claims 1-28 are pending in the above-referenced patent application. Claim 10 and the specification have been amended. No new matter has been added. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment.

Please charge any required fees to our Deposit Account No. 19-1995. A duplicate copy of this letter is enclosed for that purpose.

Objections to the Drawings

Fig. 10 was objected to as being unreadable. Another copy of Fig. 10 with more readable reference numbers is enclosed herewith.

Objections to the Specification

The Abstract of the disclosure was objected to because it uses "said" in lines, 2, 4, 7, 8 and 10. A corrected Abstract section is provided by this amendment wherein "said" has been replaced with "the".

Further, the specification, page 28 lines 24-25, has been amended to replace the phrase "A proxy 117" with --A bridge 117--.

Objections to the Claims

Claims 10-19 were objected to because of certain informalities in Claim 10. Claim 10 has been amended to address such informalities.

Rejection of Claims Under 35 USC 102

Claims 1-3, 6-12, 15-22 and 25-28 were rejected under 35 USC 102(e) as being anticipated by USPN 6,032,202 to Lea et al ("Lea"). Rejection of Claims 1-3, 6-12, 15-22 and 25-28 is respectfully traversed because Lea does not disclose all of the limitations of the claims.

As per Claim 1, Lea does not disclose a method for providing a user interface for controlling devices that are currently connected to a network, by obtaining information from one or more of the devices currently connected to the network, and then,

"generating a user interface description based at least on the obtained information",

"the user interface description including a reference associated with the device information of each of said devices currently connected to the network",

"such that the reference includes at least one link to information contained in said devices currently connected to the network", as required by Claim 1.

Specifically, in the Office Action, the Patent Office refers to Lea, col. 3, lines 5-12, and col. 2, lines 57-67, to reject Claim 1. In col. 3, lines 5-12, Lea simply states:

"Through the DCMs of the present invention, over the life time of the AV system, as new devices are added whose capabilities and features are unknown, or only partially known to other devices, a mechanism is provided which guarantees that all devices can be communicated with and controlled at some basic minimal level, and then where possible, as more information is obtained about the device, a better abstraction of the new device is created."

Despite the Patent Office's assumption, in the above passage Lea does not disclose the steps of generating a user interface for controlling devices that are currently connected to the network, by obtaining information from one or more of the devices currently connected to the network, as required by Claim 1. Lea mentions a mechanism whereby devices can be communicated with and controlled at some basic minimal level. Indeed, there is no mention of generating a user interface for controlling devices that are currently connected to the network, as claimed herein.

Further, in col. 2, lines 57-67 (referenced by the Patent Office), Lea simply states:

"To implement the above features, the present invention includes an architecture that allows the newly coupled device to be queried. Using the results of the query, a software based abstraction of that device is generated and made available to other elements in the network. The software abstraction is referred to as a device

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control module. The device control module provides a predefined, standardized, set of interoperability, functionality, and control interfaces for the device. The CE device is coupled to and communicates with the home AV network via a device control module."

Despite the Patent Office's assumption, in the above passage Lea does not disclose any of the limitations in step (b) of Claim 1, including: "generating a user interface description based at least on the obtained information", "the user interface description including a reference associated with the device information of each of said devices currently connected to the network", "such that the reference includes at least one link to information contained in said devices currently connected to the network". In col. 2, lines 57-67, Lea only mentions that newly coupled devices are queried, and using the results of the query, a software based abstraction of that device is generated (i.e., device control module or DCM) and made available to other elements in the network. The DCM provides a predefined, standardized, set of interoperability, functionality, and control interfaces for the device. Therefore, Lea does not disclose a user interface description as claimed herein.

Even if Lea can be somehow construed to provide a user interface description, Lea does not disclose that such a user interface description includes "a reference associated with the device information of each of said devices currently connected to the network", as required by Claim 1.

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Nor does Lea disclose that "the reference includes at least one link to information contained in said devices currently connected to the network", as required by Claim 1. Lea does not teach the concept of using links in the user interface description, wherein the links provide access to information stored in devices connected to the network.

As such, according to the claimed invention herein, rather than initially transferring the user interface data contained in each network device and storing each device's transferred user interface data in a general user interface description, links are included in the user interface description, wherein each link refers to the user interface data of a device connected to the network. When the user interface data of a particular device is needed (e.g., for display to a user for command and control), then a link in the general user interface description, corresponding to that particular device, is used to access that particular device's user interface data for display to a user, allowing command/control of the particular device via that user interface. Lea does not teach any of said limitations in Claim 1. Therefore, for at least these reasons, Claim 1 and claims dependent therefrom, should be allowed.

As per Claim 2, Lea does not disclose the step of "generating the user interface description such that the reference in the user interface description provides access to at least the information in each corresponding device", as required by Claim 2. The Patent Office relies on Lea, col. 3, lines 1-4, to rejection Claim 2. However, in that passage Lea only mentions that the

DCM also provides an application programming interface (API) to allow other applications to access and manipulate any newly coupled CE device. As such, Lea does not teach that this API is in a user interface description, as required by Claim 2. Nor does Lea teach that the API provides access to information in a corresponding device for generating a user interface. Indeed, Lea is clearly stating that the API is an *application programming interface* for other *applications* to access and manipulate a device. This has nothing to do with the claimed invention wherein a link for a each device is included in a user interface description, wherein that link is later used to access information such as user interface data in that device to generate a user interface for user interaction with that device. Therefore, for at least these reasons, and the reasons provide above in relation to Claim 1, rejection of Claim 2 should be withdrawn.

As per Claim 3, Lea does not disclose "generating the user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device." Again, as discussed, Lea does not disclose the steps of generating any type of user interface description according to the claimed invention. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, rejection of Claim 3 should be withdrawn.

As per Claim 6, Lea does not disclose that "the device information in each device includes device identification information." In col. 7, lines 20-27, referenced by the Patent

Office, Lea does not teach the limitations of Claim 6, and certainly there is no mention of device identification information as claimed herein. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, rejection of Claim 6 should be withdrawn.

As per Claim 7, Lea does not disclose that "the device information in each device includes a *user control interface description* for user interaction with the device" (emphasis added), as required by Claim 7. Further, as discussed, Lea does not disclose the steps of generating any type of user interface description according to the claimed invention. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2, rejection of Claim 7 should be withdrawn.

As per Claim 8, Lea does not disclose "generating the user interface description such that each reference in the user interface description is to at least the user control interface description in each corresponding device", as required by Claim 8. As discussed, there is no user interface description generated in Lea. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-2 and 7, rejection of Claim 8 should be withdrawn.

As per Claim 9, Lea does not disclose "generating the user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device, the device data providing reference to the user

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control interface description in each device", as required by Claim 9. As discussed, there is no user interface description generated in Lea. Therefore, for at least these reasons, and the reasons provided above in relation to Claims 1-3 and 7-8, rejection of Claim 9 should be withdrawn.

Independent Claim 10 was rejected for substantially the same reasons that the rejection of Claim 1. The rejection of Claim 1 is respectfully traversed for the reasons given above in relation to Claim 1. Further, Applicant believe that Lea does not disclose "an agent" in a device for obtaining information and generating a user interface description as required by Claim 10. Therefore, for at least these reasons, rejection of Claim 10, and all claims dependent therefrom, should be withdrawn.

Claims 11, 12, 15, 16, 17, 18 and 19 were rejected for substantially the same reasons as rejection of Claims 2, 3, 6, 7, 8, 9. The rejection of Claims 11, 12, 15, 16, 17, 18 and 19 is respectfully traversed for the reasons given above in relation to Claims 1, 2, 3, 6, 7, 8, 9 and 10. Further, in regards to Claim 19, Lea does not provide "means for generating at least a user interface by: using each reference in a user interface description to access the information in each corresponding device, and generating the user interface including device data corresponding to each device using the accessed information in each device." Therefore, rejection of Claims 11, 12, 15, 16, 17, 18 and 19 should be withdrawn.

Independent Claim 20 was rejected for substantially the same reasons that the rejection of Claim 10. The rejection of Claim 20 is respectfully traversed for the reasons given above in relation to Claim 10. Further, Applicant believe that Lea does not disclose "an agent" in multiple devices for obtaining information and generating a user interface description as required by Claim 20. Therefore, for at least these reasons, rejection of Claim 20, and all claims dependent therefrom, should be withdrawn.

Claims 21, 22, 25, 26, 27 and 28 were rejected for substantially the same reasons as rejection of Claims 11, 12, 15, 16, 17 and 18. The rejection of Claims 21, 22, 25, 26, 27 and 28 is respectfully traversed for the reasons given above in relation to Claims 10, 11, 12, 15, 16, 17 and 18. Therefore, rejection of Claims 21, 22, 25, 26, 27 and 28 should be withdrawn.

Rejection of Claims Under 35 USC 103

Claims 4, 5, 13, 14, 23 and 24 were rejected under 35 USC 103(a) as being unpatentable over Lea in view of USPN 5,956,487 to Venkatraman et al ("Venkatraman").

As per Claims 4 and 5, as the Patent Office also states, Lea does not disclose generating the user interface description by associating a hyper-text link with the device information of each of the devices connected to the network, as required by Claim 4. As the Patent Office further acknowledges, Lea does not disclose that the information in each device comprises an HTML

page contained in that device, as required by Claim 5.

However, the Patent Office concludes that Venkatraman, col. 3, lines 5-61, discloses such limitations of Claims 4 and 5. Further, the Patent Office proposes a modification of Lea to associate a hyper-text link with the device information of one or more devices in Lea's method since HTML would allow the devices to interface with Internet, from service providers, via HTTP protocol.

Rejection of the claims is respectfully traversed because the references, alone or in combination, do not teach or suggest the claimed limitations. No prima facie case of obviousness has been established.

Lea is directed to a method and system for providing interoperability and integration of a plurality of devices in a network. When a new device is coupled to a home audio video network, the device is queried to obtain a description of first level functions supported by the device, and generate a control module. The device is subsequently accessed via the control module in order to access its functions and provide interoperability and integration of the device with the plurality of devices in the network. (Abstract).

Venkatraman is directed to Web access functionality embedded in a device to enable low cost widely accessible and enhanced user interface functions for the device. A web server in the device provides access to the user interface functions for the device through a device web page. A network interface in the device enables access to the web page by a web browser such that a user of the web browser accesses the user interface functions for the device through the web page. (Abstract).

Venkatraman, col. 3, lines 5-61 (relied upon by the Patent Office), does not disclose "generating a user interface description" nor does Venkatraman disclose generating such a user interface description by "associating a hyper-text link with the device information of each of said devices currently connected to the network", as required by Claim 4. Indeed, in col. 3, lines 5-61, Venkatraman simply states that Web access functionality is embedded in a device 10 using web server software for execution by a processor 200. There is no teaching in Venkatraman of associating a hyper-text link with the device information of each of said devices currently connected to the network.

One of ordinary skill in the art would not look to combine Lea and Venkatraman. Nor is there a motivation or suggestion in either reference to do so. Even if Lea and Venkatraman are combined as suggested by the Patent Office, the result does not teach or suggest the claimed invention. Further, such a combination would simply mean including a web server in each

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respectfully traversed for the reasons given above in relation to Claim 14.

Conclusion

Accordingly, Applicants respectfully request that the rejections of the claims be

withdrawn, and the claims, be allowed for at least the aforementioned reasons. If it is believed

that a telephone interview will help further the prosecution of this case, Applicants respectfully

request that the undersigned attorney be contacted at the listed telephone number.

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device of Lea. This provides no advantage for the purpose of Lea which is providing interoperability and integration of a plurality of devices in a network. Lea is simply not concerned with, nor is appropriate for, the Patent Office's proposed modification to allow Lea's devices to interface with Internet, from service providers, via HTTP protocol. At any rate, such a modified system does not teach the limitations of Claim 4. Indeed, such a modified system teaches away from the claimed invention herein because

As per Claim 5, Venkatraman does not disclose that the information in each device comprises an HTML page contained in that device. Further, the web server software of Venkatraman does not provide HTML to other devices in a network. Further, as discussed, there is no motivation or use in combining Lea and Venkatraman, and such a combination does not teach the claimed invention herein. As such, rejection of Claim 5 should be withdrawn.

Claim 13 was rejected for the same reasons as Claim 4. The rejection of Claim 13 is respectfully traversed for the reasons given above in relation to Claim 4.

Claim 14 was rejected for the same reasons as Claim 5. The rejection of Claim 14 is respectfully traversed for the reasons given above in relation to Claim 5.

Claim 23 was rejected for the same reasons as Claim 13. The rejection of Claim 23 is respectfully traversed for the reasons given above in relation to Claim 13.

Claim 24 was rejected for the same reasons as Claim 14. The rejection of Claim 23 is

Version With Markings to Show Changes Made

The Abstract of the disclosure has been amended as follows:

A method and system for providing a user interface for a user to discover and control devices that are currently connected to a network, such that at least one of [said] the devices performs steps, by [including]: (a) obtaining information from one or more of the devices currently connected to the network, [said] the information including device information; and (b) generating a user interface description based at least on the obtained information, the user interface description including a reference associated with the device information of each of [said] the devices currently connected to the network, such that the reference includes at least one link to information contained in [said] the devices currently connected to the network. As such, a user interface can be displayed using the references in the user interface description, for controlling [said] the devices currently connected to the network.

The paragraph beginning on page 28, line 23, has been amended as follows:

In this embodiment, the network 300 can be connected to an external network 119 of dissimilar type (e.g., Ethernet) to the 1394 Serial bus, via a bus 121. A [proxy] bridge 117 is used to interface the two dissimilar medium types. For communication between the addressing scheme of the external network 119, and

the addressing scheme of the network 300, the bridge 117 comprises a Network

Address Translation (NAT) boundary. This technique can be utilized for company

LAN's and is a 'divide and conquer' approach to the complex problem of

satisfying various network's differing IP address requirements and prevents

'running out of IPV4' addresses. The external network can include e.g. CABLE-

TV network 115 via Ethernet to the telephone e.g. ADSL), providing broadband

connection to the Internet and WWW. The Ethernet 119 provides the bridge

function to the external network. The bridge 117 or Ethernet 119 may provide the

NAT address conversion function. If the Ethernet is to provide local private (to

home only) addressing (e.g. as defined by then IETF standard RFC 1918) then the

NAT function is in the Ethernet 119. Existing cable modems are set up with a

global address and also Internet global address for the PC on the Ethernet (in this

case the NAT is in the bridge 117).

Claim 10 has been amended as follows:

10.   (Amended) A network system for performing a service, comprising:

a physical layer, wherein the physical layer provides a communication medium

that [than] can be used by devices to communicate with each other;

one or more devices connected to the physical layer, each device storing

information including device information;

an agent in at least one device for:

(a)   obtaining information from one or more of the devices currently connected to the network, said information including device information; and

(b)   generating a user interface description based at least on the obtained information, the user interface description including a reference associated with the device information of each of said devices currently connected to the network, such that the reference includes at least one link to information contained in said devices currently connected to the network.
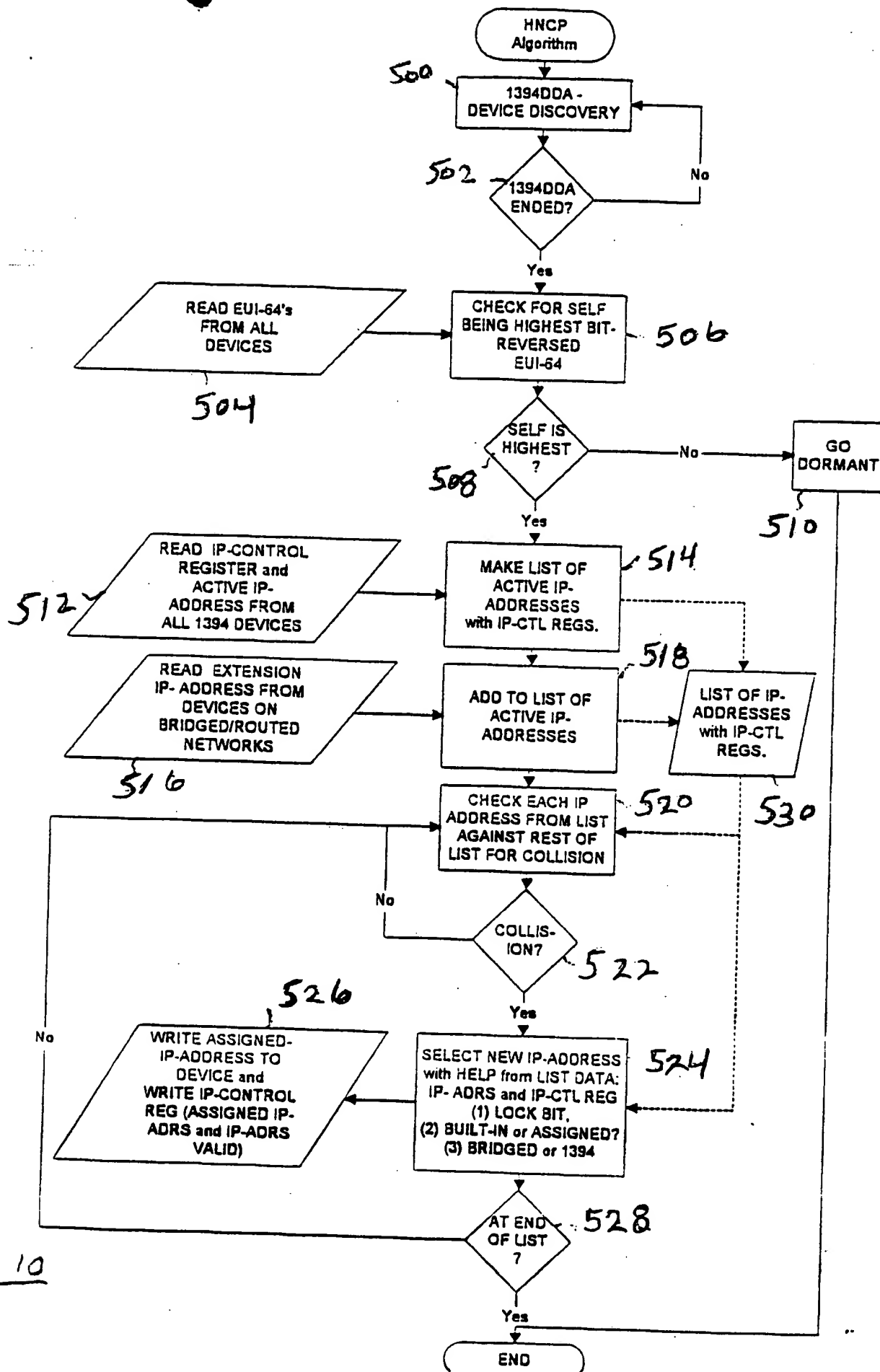
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                              ( HNCP )
                              ( Algorithm )
                                  │
                  500             ▼
                         ┌──────────────────┐
                         │  1394DDA -       │◄─────┐
                         │  DEVICE DISCOVERY│      │
                         └──────────────────┘      │
                                  │                │
                  502             ▼                │
                              ◇ 1394DDA ◇   No     │
                              ◇ ENDED?  ◇──────────┘
                                  │
                                 Yes
                                  ▼
  ┌──────────────┐        ┌──────────────────┐
  │ READ EUI-64's│        │  CHECK FOR SELF  │
  │ FROM ALL     │───────►│  BEING HIGHEST BIT-│   506
  │ DEVICES      │        │  REVERSED EUI-64 │
  └──────────────┘        └──────────────────┘
        504                       │
                                  ▼
                              ◇ SELF IS ◇  No   ┌──────────┐
                              ◇ HIGHEST ◇──────►│   GO     │
                              ◇   ?     ◇       │ DORMANT  │
                        508       │             └──────────┘
                                 Yes                 510
                                  ▼
  ┌──────────────────┐    ┌──────────────────┐
  │ READ IP-CONTROL  │    │  MAKE LIST OF    │  514
  │ REGISTER and     │    │  ACTIVE IP-      │
  │ ACTIVE IP-       │───►│  ADDRESSES       │
  │ ADDRESS FROM     │    │  with IP-CTL REGS.│
  │ ALL 1394 DEVICES │    └──────────────────┘
  └──────────────────┘            │
   512                            │                518
  ┌──────────────────┐    ┌──────────────────┐   ┌──────────────┐
  │ READ EXTENSION   │    │  ADD TO LIST OF  │   │ LIST OF IP-  │
  │ IP-ADDRESS FROM  │    │  ACTIVE IP-      │···│ ADDRESSES    │
  │ DEVICES ON       │───►│  ADDRESSES       │   │ with IP-CTL  │
  │ BRIDGED/ROUTED   │    └──────────────────┘   │ REGS.        │
  │ NETWORKS         │            │              └──────────────┘
  └──────────────────┘           │                    530
        516                      ▼
                         ┌──────────────────┐  520
                         │  CHECK EACH IP   │
                    ┌───►│  ADDRESS FROM LIST│◄──────┘
                    │    │  AGAINST REST OF │
                    │    │  LIST FOR COLLISION│
                    │    └──────────────────┘
                    │            │
                    │  No        ▼
                    │        ◇ COLLIS- ◇
                    │        ◇  ION?   ◇   522
                    │            │
                    │           Yes
  ┌──────────────────┐   ┌──────────────────┐
  │ WRITE ASSIGNED-  │   │ SELECT NEW IP-ADDRESS│  524
  │ IP-ADDRESS TO    │   │ with HELP from LIST DATA:│
  │ DEVICE and       │◄──│ IP-ADRS and IP-CTL REG│
  │ WRITE IP-CONTROL │   │ (1) LOCK BIT.    │◄───┐
  │ REG (ASSIGNED IP-│   │ (2) BUILT-IN or ASSIGNED?│
  │ ADRS and IP-ADRS │   │ (3) BRIDGED or 1394│   │
  │ VALID)           │   └──────────────────┘   │
  └──────────────────┘            │             │
     526   No                     ▼             │
      └──────────────────►    ◇ AT END ◇  No    │
                              ◇ OF LIST ◇───────┘
                              ◇   ?     ◇   528
                                  │
                                 Yes
                                  ▼
                              (  END  )
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FIG. 10